TREATMENT OF GONORRHEA IN CALIFORNIA

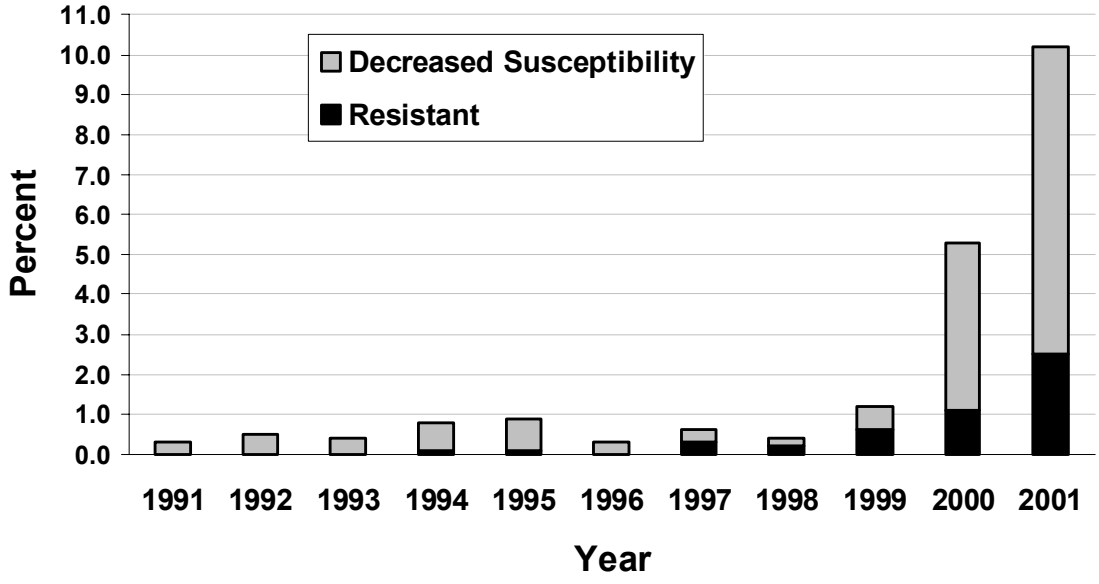
National Gonorrhea Treatment Guidelines

Sexually transmitted disease (STD) treatment guidelines from the Centers for Disease Control and Prevention include fluoroquinolones (ciprofloxacin, levofloxacin, and ofloxacin) as first-line therapy for uncomplicated gonococcal infections. However, fluoroquinolones are no longer recommended for the treatment of gonorrhea in areas where fluoroquinolone resistance is prevalent. Until recently, these areas included Asia and the Pacific, including Hawaii. California has now been added to the list of areas where fluoroquinolones should not be used as a first line therapy to treat gonorrhea. (CDC, 2002. Guidelines can be viewed at: www.cdc.gov/std)

Increasing Fluoroquinolone Resistance in California

Antimicrobial resistance surveillance in California has demonstrated a prevalence of ciprofloxacin-resistant gonorrhea of nearly 5% in second half of 2001 and nearly 7% in the first quarter of 2002. Prior to this time period, the level of ciprofloxacin resistance was low (0.2% in 1998, 0.6% in 1999, 1.1% in 2000, 2.5% in 2001) according to data from the national Gonococcal Isolate Surveillance Project (GISP), which provides antibiotic susceptibility testing on gonococcal isolates from male patients with urethral infections (the first 25 each month) seen in sentinel STD clinics. The GISP surveillance system includes 4 sites in California: San Francisco, Orange County, Long Beach, and San Diego, all of which have experienced a similar increase in cases.

Gonococcal Isolate Surveillance Project (GISP), Percent of *Neisseria Gonorrhoeae* Isolates with Decreased Susceptibility or Resistance to Ciprofloxacin, California Sites, 1991–2001



Note: Resistant isolates have ciprofloxacin Minimum Inhibitory Concentration (MIC) > or = 1 µg/mL.
Isolates with decreased susceptibility have ciprofloxacin MIC 0.125 – 0.5 µg/mL.
STD Clinic Sites: Long Beach, Orange, San Diego, San Francisco
Source: California Department of Health Services, STD Control Branch and CDC Preliminary 2001 Data

New California Gonorrhea Treatment Guidelines

In response to this increase in fluoroquinolone-resistant gonorrhea in California, the California Department of Health Services Sexually Transmitted Disease Control Branch and the California STD Controllers Association issue the following recommendations:

1. Avoid the use of fluoroquinolones (ciprofloxacin, ofloxacin, and levofloxacin) to treat gonorrhea in California.

2. Instead, antibiotics of choice to treat uncomplicated gonococcal infections of the cervix, urethra, and rectum include:
   - **Ceftriaxone** 125 mg intramuscularly in a single dose
     OR
   - **Cefixime** 400 mg orally in a single dose

3. Alternative antibiotic regimens for the treatment of uncomplicated gonococcal infections of the cervix, urethra, and rectum include:
   - **Spectinomycin** 2 g intramuscularly in a single dose
     OR
   - Single dose injectable cephalosporins: **Ceftizoxime** 500 mg intramuscularly, **Cefoxitin** 2 g intramuscularly with **Probenecid** 1 g orally, or **Cefotaxime** 500 mg intramuscularly

4. The antibiotic of choice to treat gonococcal infections of the pharynx:
   - **Ceftriaxone** 125 mg intramuscularly in a single dose
   - Cefixime is not recommended by the CDC to treat pharyngeal infections because of a relative lack of published data demonstrating efficacy. However, providers may chose cefixime because of the ease of oral administration. If cefixime is used to treat pharyngeal infection, a test-of-cure (TOC)[1] is recommended.

5. For patients with significant anaphylaxis-type (IgE-mediated) allergies to penicillin, where the use of cephalosporins is a concern or patients with allergies to cephalosporins:
   - **Spectinomycin** 2 g intramuscularly in a single dose
     OR
   - Fluoroquinolone with test-of-cure (TOC)[1]
     OR
   - **Azithromycin** 2 g orally in a single dose with test-of-cure (TOC)[1]

6. For the treatment of pelvic inflammatory disease (PID), the CDC guidelines should be followed. However, if the gonorrhea test is positive in a patient receiving a fluoroquinolone regimen, a test-of-cure (TOC)[1] should be performed.

7. Co-treatment of chlamydia in patients with gonorrhea is still recommended unless chlamydia infection has been ruled out using sensitive test technology (e.g. nucleic acid amplification test, or NAATs). Recommended antibiotics for the treatment of chlamydial infection include:
   - **Azithromycin** (1 g orally in a single dose)
     OR
   - **Doxycycline** (100 mg orally twice a day for 7 days).

Clinicians need to be alert to the failure of any patient to respond to recommended therapy. If clinicians encounter a treatment failure after a recommended regimen in the absence of reexposure, they need to take whatever steps are necessary to culture the organism.

Question or concerns regarding these recommendations should be addressed to:

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[1] Ideally, the test-of-cure should be both a culture test so that the isolate can be tested for antimicrobial susceptibility and a nucleic acid amplification test to maximize sensitivity. If only a non-culture test is used, positive results should be followed up with a culture and susceptibility testing before the patient receives an alternative treatment.